Predictors of Postpartum Depression in an Iranian Population, 2006

Zahra Sooki [1], Zahra Tagharobi [2], Seyyed Mostafa Sharifi [3], Khadijeh Sharifi [1*], Saideh Musavi [4], Bibi Hajar Zahmatkesh [4]

[1] Department of Midwifery, Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran
[2] Trauma Nursing Research Center, Kashan University of Medical Sciences, Kashan, IR Iran
[3] Department of Anesthesia, Qom University of Medical Science, Qom, IR Iran
[4] Midwifery Department, Shahrud University of Medical Science, Shahrud, IR Iran

ARTICLE INFO	ABSTRACT
Article type: Original Article	***Background:*** Postpartum depression has serious complications. There are various risk factors for postpartum depression and in some cases these are controversial. ***Objectives:*** This study tested the prevalence of postpartum depression and its related factors in Kashan, Iran, in 2006. ***Patients and Methods:*** In this cross-sectional study, 460 women referred to Kashan's health centers, during the second and third months after childbirth, were enrolled. The Beck Depression Inventory was used to make a diagnosis of depression. Other variables such as; type of delivery, satisfaction with husband, and demographic features were also assessed. Data were analyzed by chi-square, independent t-test and regression analysis, using SPSS 16 software. ***Results:*** The prevalence of severe and moderate depression was 28.9%. Our findings did not reveal any significant relationship between; type of delivery, unwanted pregnancy, gender of neonate, duration of marriage and gravidity with postpartum depression ($P > 0.05$). The stepwise regression analysis showed that depression made a significant model with; satisfaction with husband, age and education of mother. ***Conclusions:*** Satisfaction with husband, age and education of mother are the important risk factors for postpartum depression.

▸ *Implication for health policy/practice/research/medical education:*
The results of this research could help health educators to identify women with a high risk of postpartum depression and manage them with special care to prevent this complication.

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1. Background

Postpartum depression (PPD) is a common psychiatric disorder. PPD manifests during the first 90 days after delivery, and this risk continues for approximately two years postpartum. Based on a meta-analysis of community studies, the prevalence of PPD involves approximately 10% - 50.7% of women in different parts of the world (1-4).

Some researchers have reported that its prevalence is up to 40.7% in Iran (5-11). PPD has severe consequences for both the mother and infant, these include poor quality of care, low birth weight and low levels of emotion towards the newborn (12-15). It also affects family relationships and the psychological health of the family (2-5). Researches on the risk factors of PPD have yielded different

and controversial results. A history of depression in the mother (9, 15), and her husband (1), low self-esteem (8), psychiatric morbidity in pregnancy, past premenstrual irritability, negative pregnancy attitudes (16, 17), poor relationship with family (15), lack of perceived social support (1, 18), lack of emotional and financial support from the partner (1, 16), marital conflict, physical violence (1, 19, 20), stressful life events in the previous months (11, 18), moving to a new location (19, 20), natural disasters (21), unintended pregnancy (16, 20), multiple births (22) and type of delivery (11, 18) are some of the risk factors of PPD. In a cross-sectional study in Isfahan, Iran, 57.1% of the study participants had a tendency for depression. The risk factors of PPD in this study were low levels of education in the mother, unplanned pregnancy, undesired gender of the child, and unemployment (1). Ukpong *et al.* and Hadizadeh *et al.* have also reported that the prevalence of PPD is higher in women who underwent a cesarean delivery (CD) (23, 24), but some researchers did not confirm such a relationship (10, 25, 26). It has also been shown that about 50% of PPD cases have no known etiology, which shows the risk factors of this problem have not been completely identified (27). Identifying the women who are vulnerable to PPD may contribute to a better understanding of the underlying mechanisms, as well as assist in the prevention of adverse responses.

2. Objectives

The present study investigated the prevalence of postpartum depression and its related factors in Kashan, Iran, 2006.

3. Patients and Methods

This cross-sectional study was performed in the Kashan University of Medical Sciences. Women referred to health care centers in Kashan, Iran, during the second and third months after their delivery, were enrolled from February to June, 2006. Inclusion criteria were; exclusive breast feeding, giving birth to a live newborn, ability to read and write, and not having a history of; depression, progesterone use before or during pregnancy, systemic disorders such as hypothyroidism, and serious psychological or physical disorders (e. g, hospitalization, surgery, loss of a relative) during the last year. Exclusion criteria were; tubal ligation, postpartum hospitalization, and serious postpartum problems, such as; maternal hemorrhage and infection, neonatal congenital anomalies and hospitalization. The 13 item Beck Depression Inventory was used for diagnosing depression symptoms. Beck's questionnaire is a well-known, valid and reliable tool for measuring the symptoms of PPD in Iran (28). Factors associated with PPD were also recorded including; women and their husband's education levels, job and age, number of previous children, unwanted pregnancies, kind of delivery and satisfaction with husband. The participants completed the test using the scale 0, 1, 2 or 3 for each item. Women receive a score of between 0 - 39 from the questionnaire. Depression was considered mild if they scored 5 – 7, moderate 8 – 15, and severe if they scored 16 – 39. This study was approved by the Research Council and Research Ethics Committee of Kashan University of Medical Sciences. All participants signed a written informed consent and were free to participate in the study. Data was analyzed by chi-square for nominal variables. Independent sample t-test and regression analysis were used for the quantitative variables.

4. Results

In total, 460 women were entered in the study. The participants had an age range of 13 to 45 years with a Mean ± SD of 26.52 ± 5.1 years. There was more PPD in younger women (PPD was observed in more than 50% of women

Table 1. Multiple Regression of Depression and Related Factors (n = 460)

	R²	T Score	Final ß	*P* value
Dependent variable: depression (constant)		10.86		0.000
Satisfaction of husband	0.097	-7.1	-0.321	0.000
Age	0.11	-2.4	-0.107	0.017
Education	0.12	-2.3	-0.103	0.021
Excluded variables				
Husband age		-0.278	-0.017	0.781
Husband education		0.089	0.005	0.089
Gender of neonate		0.895	0.040	0.371
Type of delivery		0.442	0.020	0.658
Duration of marriage		-1.456	-0.074	0.146
Unwanted pregnancy		0.617	0.028	0.538
Gravidity		0.011	0.001	0.992
Number of children		0.661	0.038	0.509

younger than 30 years) but there was no significant relationship between age and PPD. About 56.5% of women were primipara and 43.5% were gravida (2-4). In total, 230 (50%) women did not have depression based on the Beck's test, while 97 (21.1%) had mild depression, 109 (23.7%) and 24 (5.2%) women had moderate or severe depression, respectively. The stepwise regression analysis showed that depression made a significant model with; satisfaction with husband, age and education of mother. These three variables explained approximately 12% of depressions in this study. Husband's age, husband's education, gender of neonate, type of delivery, duration of marriage, unwanted pregnancy, gravidity, and number of children did not show any significant correlation with PPD (*Table 1*).

5. Discussion

In the present study 50% of the participants were possible cases of depression. Based on some studies there are differences in the prevalence of PPD. The prevalence of PPD has been reported to be from 9% to 57% in different studies (1, 5, 6, 8-10, 15, 18, 29). This wide range may suggest that cultural and environmental factors may affect PPD. In this study, there was more PPD in younger women, but no significant relationship was observed between age and PPD in univariate analysis. However, age was one of the main predictors of PPD in the regression model. In some studies, 'age of mother' was an important risk factor for PPD (4, 11), it seems that low maternal age of pregnancy and first pregnancies are risk factors for PPD. In the current study, education of the mother was another predictor of PPD. Low level of education was also identified as a risk factor for PPD, thus providing social supports for mothers may be helpful in preventing PPD (1). In our study, satisfaction with husband was one of the main variables in the model that predicted PPD. Based on some previous researches, women who had a poor relationship with their parents during puerperium or experienced difficulties in the intimate relationship with their partners have higher scores of PPD (20, 30). In Iran pregnancy and delivery are considered to be mainly a female issue. Husbands are neglected in this process, and women do not get enough support from their husbands. Involving the husbands in the process of delivery may help to reduce the incidence of PPD in women. This study did not identify an unplanned or unwanted pregnancy as a risk factor of PPD. This finding was consistent with the results of some previous studies (1, 31, 32). It seems that unplanned pregnancy and type of delivery are not significant contributors to PPD. Sadr *et al.* also found that there was no significant relationship between the type of delivery and PPD (33). While some studies found that the prevalence of PPD was higher in women who underwent cesarean delivery (CD) (23, 24). Yet another study in Lebanon showed that the prevalence of PPD in women who underwent CD is less than those who experienced vaginal delivery (26). The present study showed that women's satisfaction with

their husbands, maternal age and education may predict PPD. Paying special attention to young mothers, with low levels of education, who are unsatisfied with their spouses, may assist in the prediction and prevention of PPD.

Authors' Contribution

All authors made an equal contribution to the design of the research and writing the article. Zahra Sooki conducted the data gathering and data analysis.

Financial Disclosure

The authors declare that they have no competing interests.

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